

February 3, 2003

Submitted Electronically to the  
DOT Docket Management System

Docket Management System  
U.S. Department of Transportation  
Room PL 401  
400 Seventh Street, SW  
Washington, DC 20590-0001

Re: Docket Number RSPA-02-11989 [HM215E]  
Comments on Proposed Harmonization Rulemaking

Dear Sir or Madam

The Portable Rechargeable Battery Association (PRBA) provides the following comments on the Research and Special Programs Administration (RSPA) proposed rule for Harmonization with the United Nations Recommendations on the Transport of Dangerous Goods, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions published in the December 3, 2002 *Federal Register*. (67 Fed. Reg. 72033), Docket Number RSPA-2002-13658 [HM215E].<sup>1</sup> Several proposed changes to the lithium battery regulations under 49 CFR § 173.185 and special provisions are discussed below.

1. Special Provision A54 – As drafted, Special Provision A54 is ambiguous and inconsistent with the ICAO Technical Instructions (2003-2004 Edition). Currently, under the ICAO Technical Instructions and U.S. hazardous materials regulations (HMR), packages of Class 9 lithium/lithium ion batteries and lithium/lithium ion batteries packed with equipment cannot exceed 35 kg

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<sup>1</sup> PRBA is a trade association whose members include many of the world's leading manufacturers of rechargeable lithium ion batteries, portable computers, telephones, and other battery powered devices.

(gross). Class 9 lithium/lithium ion batteries contained in equipment cannot exceed 5 kg (mass). In SP A54, RSPA proposes to allow Class 9 lithium/lithium ion batteries contained in equipment as well as lithium/lithium ion batteries and lithium/lithium ion batteries packed with equipment to exceed the 35 kg (gross) weight limitation, if the shipment is approved by the Associate Administrator. This would leave authorization of shipments of batteries contained in equipment ineligible for the relief, since none could ever reach the 35 kg threshold and still comply with the ICAO Technical Instructions. PRBA therefore requests that RSPA revise SP A54 as noted below in order to harmonize the HMR with the ICAO Technical Instructions:

*A54 Lithium batteries or lithium batteries packed with equipment that exceed 35 kg (77 pounds) gross weight may only be transported on cargo aircraft if approved by the Associate Administrator. Lithium batteries contained in equipment that exceed the 5 kg (11 pounds) mass weight may only be transported on cargo aircraft if approved by the Associate Administrator.*

2. Special Provision A55 – RSPA is proposing to add Special Provision A55 to authorize shipments of prototype cells and batteries that have not completed the required UN Tests. SP A55 authorizes prototype shipments if packages contain less than 24 cells or 12 batteries, are shipped by cargo aircraft only, and are approved by the Associate Administrator. PRBA supports the idea of an exception for prototypes, but several changes are necessary to harmonize SP A55 with the UN Recommendations.

First, RSPA's proposed SP A55 is inconsistent with a related provision on shipping prototypes contained in the UN Recommendations known as Special Provision 310. SP 310 does not contain an approval requirement and does not limit shipments of prototypes to cargo aircraft only.

In PRBA's experience, SP 310 is a more practical approach. PRBA members that manufacturer lithium ion cells and batteries often receive requests to ship prototypes on very short notice, typically 5-7 days. However, securing an approval from RSPA can take 8-12 weeks. To require each shipment receive an approval would place an unrealistic burden on manufacturers and RSPA disrupt commerce, be very difficult to comply with, and achieve no improvement on safety. In addition, to require prototypes be limited to cargo aircraft is unrealistic in light of the time sensitive nature of shipping these products. Cargo flights are often not available to serve the facilities where research and development is occurring, particularly when prompt delivery is critical. In addition, to require prototype cells and batteries be transported using outer packaging that meets packing group I performance levels is expensive, inconvenient, and quite unnecessary especially when each cell and battery must be individually packed in an inner packaging and surrounded by cushioning material that is non-combustible and non-conductive. Under these circumstances, fiberboard boxes that meet packing group II performance levels should be allowed under SP A55.

PRBA therefore requests that RSPA replace SP A55 with UN Special Provision 310, as modified for packing group II packaging. It would then read as follows:

*A55 Production runs consisting of not more than 100 lithium cells and batteries or pre-production prototypes of lithium cells and batteries are not subject to the requirements of this subchapter, including testing requirements in Chapter 38.3 of the Manual of Tests and Criteria, when these prototypes are transported for testing, if:*

- (a) each package contains not more than 24 cells or 12 batteries;*

*(b) the cells and batteries are transported in an outer packaging that is a metal, plastic or plywood drum or a metal, plastic, fiberboard or wooden box and that meets the criteria for packing group II packagings; and*

*(c) each cell and battery is individually packed in an inner packaging inside an outer packaging and is surrounded by cushioning material that is non-combustible, and non-conductive.*

Another related issue that requires RSPA's attention pertains to state variation USG-03 under the ICAO Technical Instructions (2003-2004 Edition). This variation requires a shipper to secure an approval from the U.S. DOT prior to shipping prototypes to the U.S. The approval requirement under USG-03 is in addition to the approval needed from the state of origin under SP A88 of the ICAO Technical Instructions.

RSPA has provided no rationale for USG-03. Nor is PRBA aware of any other receiving country that requires approvals before shipping prototype lithium-ion cells and batteries. This requirement will be very disruptive and could place a considerable burden on RSPA. Many PRBA members have manufacturing facilities overseas and very often ship prototypes to the U.S. To comply with USG-03, PRBA estimates that dozens of approvals would be required annually. These would contribute nothing, however, to air safety. PRBA therefore requests that RSPA eliminate USG-03 requirements under the ICAO Technical Instructions.

3. Proposed open circuit voltage requirements under 49 CFR § 173.185(e)(7) – While PRBA recognizes the proposed revision to the open circuit voltage requirements is an improvement over the current one in the HMR since it would no longer apply to lithium-ion batteries, PRBA nonetheless believes RSPA should eliminate this provision altogether. This provision apparently was established in response to an incident in the early 1980's involving a lithium sulfur dioxide battery and a particular cell design that

was prevalent at that time. Cell designs since the mid 1980's have improved dramatically. Furthermore, one of the new UN Tests at the cell level is a forced overdischarge test. If cells and batteries can pass this test, there is no reasonable basis for them to be prohibited from being offered for transportation if the open circuit voltage is below 2.0 volts.

In addition, it is impossible to measure the voltage of individual cells in a large battery. Therefore, the shipper would have no way of verifying compliance with the regulations. Also, from a practical standpoint, there is no mechanism in place to enforce this provision.

The UN Recommendations do not contain this provision, and RSPA's proposed changes make it inconsistent with the ICAO Technical Instructions (2003-2004 Edition). This provision also would make the HMR inconsistent with transportation regulations in other countries (e.g., European Agreements Concerning the International Carriage of Dangerous Goods by Road and Rail) that are based on the UN Recommendations.

For the reasons noted above, PRBA requests that RSPA remove the open circuit voltage requirements under the current HMR and proposed 49 CFR § 173.185(e)(7). The U.S. also should pursue the elimination of this requirement from Packing Instruction 903 of the ICAO Technical Instructions in the interest of harmonizing international transportation regulations.

4. Shipping lithium ion batteries for recycling – Although the shipping of lithium ion batteries for recycling is not directly addressed in the proposed harmonization rule, PRBA raises this issue with RSPA again because of the implications the new lithium battery regulations will have for the Rechargeable Battery Recycling Corporation's (RBRC) used battery collection and recycling program

PRBA filed a petition with RSPA on February 8, 2002 that requested RSPA include in the proposed lithium battery rule making an exception for shipping spent lithium ion batteries for recycling. While RSPA's proposed lithium battery rule (67 Fed. Reg. 15510) is an improvement over the current provision in the HMR that addresses "cells and batteries for disposal," it does not adequately address the concern described in PRBA's petition. Failure to include these changes in the final harmonization rule or final lithium battery rule may have significant implications for the Rechargeable Battery Recycling Corporation's (RBRC) used battery collection and recycling program.

Under the current 49 CFR § 173.185(h), otherwise-regulated lithium batteries are not subject to specification packaging requirements under the HMR if shipped by ground for disposal. Under the April 2, 2002 proposed lithium battery rule, RSPA proposes to except cells and batteries from UN testing, open circuit voltage requirements, and specification packaging if shipped by ground for disposal. While this is an improvement over the current provision in the HMR, it still fails to reference cells and batteries shipped for recycling.

RBRC has operated a very successful and safe rechargeable battery collection and recycling program since 1995. Initially, RBRC collected and recycled only spent nickel cadmium batteries. However, in January 2000, RBRC expanded its collection program to also include spent rechargeable lithium ion, nickel metal hydride, and small sealed lead acid batteries. The RBRC program enables consumers to return spent rechargeable batteries to retail establishments (e.g., Radio Shack, Home Depot) for recycling. These batteries are then packed with an effective means of preventing external short circuits and shipped by ground in strong fiberboard boxes to a fully permitted recycling facility in Pennsylvania.

The problems confronting RBRC will develop when the new lithium battery regulations take effect and lithium ion batteries containing more than 8 grams of equivalent lithium content must be shipped as Class 9 hazardous materials. As a result of the continuing changes in battery technology and increasing demand for more energy density in batteries to power portable consumer electronic products, larger lithium ion batteries (those containing more than 8 grams of equivalent lithium content) may soon be utilized in these products. Thus, it is quite possible that these larger lithium ion batteries will be collected as part of the RBRC program

PRBA therefore requests that RSPA include in the lithium battery or harmonization final rules the following exception for lithium ion batteries shipped for recycling under the proposed 49 CFR § 173.185(d):

*(3) Lithium ion cells and batteries, for recycling. A lithium ion cell or battery offered for transportation or transported by motor vehicle for purposing of recycling is not subject to the requirements of this subchapter when protected against short circuits and packed in a strong outer packaging conforming to the requirements of §§ 173.24 and 173.24a.*

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Thank you for the opportunity to provide these comments on RSPA's proposed rulemaking. If you have questions regarding these comments, please contact George Kerchner at 202/383-7163.

Sincerely,

Norm England

C. Norman England  
President & CEO  
Portable Rechargeable Battery Association

cc: John Gale  
George A. Kerchner  
David B. Winberg